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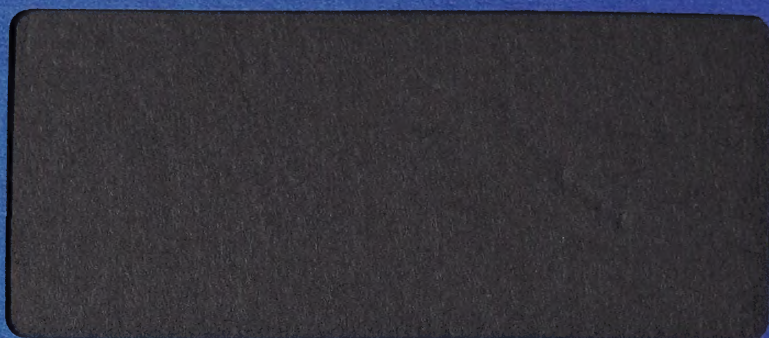
NOISE ELEMENT

CITY OF OCEANSIDE, CALIFORNIA

INSTITUTE OF GOVERNMENTAL
STUDIES

JUN 9 1977

UNIVERSITY OF CALIFORNIA



NOISE ELEMENT

CITY OF OCEANSIDE, CALIFORNIA

city planning Noise abatement
" " Oceanside

Planning Department
City of Oceanside
August, 1974

Approved by:

Planning Commission
City of Oceanside
August 19, 1974
Resolution No. 74-P70

Adopted by:

City Council
City of Oceanside
September 25, 1974
Resolution No. 74-198

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Michel A. Bedaux
Planning Director



City Hall
704 Third Street
Telephone: 722-8274

Oceanside, California 92054
August, 1974

Honorable Mayor and City Council
Chairman and Members of the
Planning Commission

SUBJECT: Letter of Transmittal -- Noise Element

Pursuant to provisions of Chapter 1590, Article 5, Section 65302 (g) of the Government Code, the City of Oceanside is required to prepare and adopt a Noise Element of the General Plan by September 21, 1974.

The content of the Noise Element must be in quantitative, numerical terms showing contours of present and projected noise levels associated with all existing and proposed major transportation elements to include highways and freeways, ground rapid transit systems, and ground facilities associated with all airports operating under a permit from the State Department of Aeronautics.

We are pleased to submit to you this report, which I feel complies with the State requirements. The basic technical data contained in the report was taken from the Comprehensive Planning Organization's Environmental Noise Policy Study. Additional technical data has been developed for selected streets by the City of Oceanside's Traffic Engineer.

The report addresses itself to the governmental responsibility for noise control. It identifies various noise sources, health effects of noise on people, and identifies noise levels along various selected major City streets. The last three sections of the report establish desirable maximum noise levels, goal formation, and implementation.

The report, when adopted, will be a useful tool in land use decisions and development patterns along with major street systems which are subject to severe noise levels.

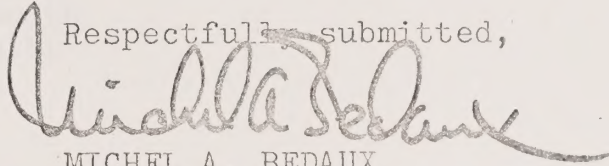


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Included in the report is a model ordinance, which was prepared by the League of California Cities. This model ordinance might serve as a guide in preparation of a final Noise Control Ordinance, which must be adopted as part of the implementation process of the Noise Element.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Michel A. Bedaux". The signature is fluid and cursive, with a large initial "M".

MICHEL A. BEDAUX
Planning Director

MAB:pc

City Officials

City Council

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John Frenzel - Vice Mayor
William Bell
Melvin J. Smith
Carl E. Pruitt

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Appendices A - E have not been included in this edition of the Noise Element. The Appendices are available for study at the offices of the Oceanside Planning Department or in copies of the Element at the Oceanside Public Library.	
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Introduction to Noise Control

Noise has become an ever-present nuisance to our society. Its effects upon people's lives, their health and mental well being are beginning to show. More pressure is being applied to governmental agencies to control noise. Programs eliminating unnecessary noises, planning for areas where noise will not harm man and establishing standards for areas where noise cannot be avoided are being prepared and adopted at the Federal, State and local levels. The Noise Element of the City of Oceanside is devoted to these objectives.

GOVERNMENTAL RESPONSIBILITY

The responsibility of controlling noise pollution falls on the three levels of government: Federal, State and local. Governmental noise controls have historically been concerned with three types of noise generators: aircraft, motor vehicle, and general noise.

Federal

The Federal government controls aircraft noise by imposing regulations on aircraft through the Federal Aviation Administration (FAA) as recommended by the Environmental Protection Agency (EPA). Vehicle noise is controlled by the Federal Aid Highways Act which sets standards for maximum acceptable highway noise levels and by the Noise Control Act of 1972 (NCA) which regulates noise from surface carriers and motor vehicles engaged in interstate commerce. For general noise, the Walsh Healy Act has established noise standards for all Federal contracts. The National Occupational Safety and Health Act (OSHA) sets standards for noise to businesses engaged in interstate commerce, and NCA gives the EPA authority to set standards for new products such as construction equipment, transportation equipment, motors or engines, and electric/electronic equipment; they also have the power to label noise emitting or noise-abatement equipment.

State

At the State level, California can establish controls for aircraft noise on all aircraft operations not already pre-empted by the FAA. Motor vehicle noise is regulated by the State through the Motor Vehicle Code establishing noise standards for motor vehicle operation. The California Streets and Highways Code regulates freeway noises and the Harbor and Navigation Codes regulate noise emissions from motor boats in or near inland waterways. General noise control is under the enforcement of the Division of Industrial Safety which publishes noise regulations, the Penal Code which prohibits loud and unusual noise that disturbs the peace, and through the Environmental Quality Act, which encourages local agencies to control environmental quality.

Local

The responsibilities of local government serve to complete the controls upon noise sources. In the matter of aircraft noise, local government may impose curfews for airport operations but only if the local government is the airport proprietor. To control motor vehicle noise, the local authority may enact regulations for off-highway motor vehicles, refuse vehicles and sound trucks. They may also prohibit the use of certain highways to vehicles which generate undesirable noise levels. Noise in general may be regulated by ordinances which control (a) construction noise, (b) amplified sound, (c) fixed noise sources, (d) loud or unusual noise, (e) and all other noise sources where control is not pre-empted by State or Federal Law.

SCOPE OF THE NOISE ELEMENT

Control of general noise pollution has been assigned to the local level of government through the requirement of a noise element. and resulting implementation methods such as noise control ordinances. The California State Government Code Section 65302 (g) requires:

"A noise element in quantitative, numerical terms, showing contours of present and projected noise levels associated with all existing and proposed major trans-

portation elements. These include but are not limited to the following:

1. Highways and freeways.
2. Ground rapid transit systems.
3. Ground facilities associated with all airports operating under a permit from the State Department of Aeronautics.

These noise contours may be expressed in any standard acoustical scale which includes both the magnitude of noise and frequency of its occurrence. The recommended scale is sound Level A, as measured with A-weighting network of a standard sound level meter, with corrections added for the time duration per event and the total number of events per 24-hour period.

Noise contours shall be shown in minimum increments of five decibels and shall be continued down to 65dB (A). For regions involving hospitals, rest homes, long-term medical or mental care, or outdoor recreational areas, the contours shall be continued down to 45dB (A).*

Conclusions regarding appropriate site or route selection alternatives or noise impact upon compatible land uses shall be included in the General Plan.

The State, local or private agency responsible for the construction or maintenance of such transportation facilities shall provide to the local agency producing the General Plan, a statement of the present and projected noise levels of the facility, and any information which was used in the development of such levels."

*Studies conducted after the approval of the State law show that noise associated with daily activity within such structures may be above the 45dB contour limits prescribed under Section 65302 of the California State Government Code for identification in the Noise Element.. This conflict in identifying acceptable noise levels is the reason that 45dB contour lines have not been identified for hospital, rest homes, and long-term medical or mental care facilities in this report.

NOISE ELEMENT PREPARATION

The Noise Element proposed for the City of Oceanside has been prepared by using the base information made available by the

Comprehensive Planning Organization (CPO). Noise contour formulas used in the preparation of CPO's noise contour maps were developed for the San Diego Region by Wyle Laboratories. Maps prepared by CPO include noise contours for all Federal and State highways, railroads and airports. Using the formulas developed by Wyle Laboratories, additional noise contours have been prepared for all major streets within the City of Oceanside. This information has been used to design the proposed noise control ordinance.

Since noise levels have a definite effect on the human living environment, the Noise Element, when adopted, must be used for guidance when considering future land use designations or changes along major travel routes.

CHAPTER 2

Comprehensive Planning Organization (CPO). Noise contour formulas used in the preparation of CPO's noise contour maps were developed for the San Diego Region by Wyle Laboratories. Maps prepared by CPO include noise contours for all Federal and State highways, railroads and airports. Using the formulas developed by Wyle Laboratories, additional noise contours have been prepared for all major streets within the City of Oceanside. This information has been used to design the proposed noise control ordinance.

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Understanding Noise

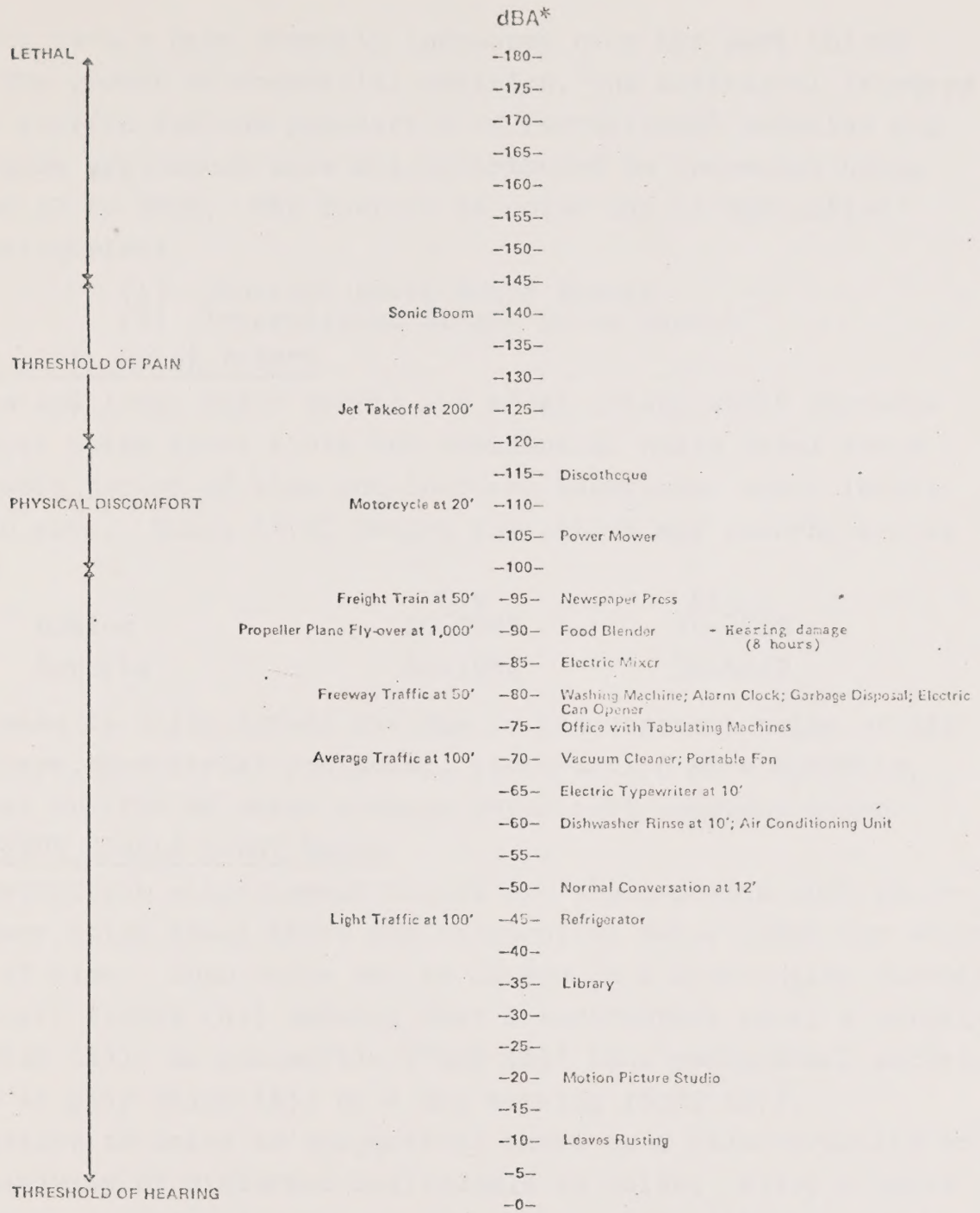
CHAPTER 2

Understanding Noise

Noise is commonly defined as "unwanted sound." It is assumed that there is a difference between intrusive and desirable sounds. To understand noise in relationship to human response, refer to the scale in Figure 1. This scale establishes the relationship between common sounds and a scientific method of measuring sound, A-weighted sound levels, and their acceptability to the human ear.

The State legislation mandating the Noise Element calls for the plotting of 65 decibel (dB) noise contours. The 65dB contour was selected because this noise level is "generally considered conditionally compatible with unrestricted residential areas." In a report appearing in Public Works Magazine (Heer & Pavoni - Noise in the Urban Environment, October, 1971), 65dB is considered "moderately loud" and background noise levels in excess of 60 dB are found to interfere with even the raised voice speaking level. Another study, (Lamber, Dr. Robert - University of Minnesota, as reported in "Highway Department Buildings Experimental Sound Barrier" Public Works Magazine, October, 1971) suggests that sound levels above 50dB interfere with sleep. Sound attenuation for residential structures is reported to be about 17dB less with windows open and 25dB less with windows closed. It appears that if a sound level of 48dB ("Quiet") or lower is to be maintained, residential construction up to the 65dB contour line is acceptable ($65\text{dB} - 17\text{dB} = 48\text{dB}$); however, residential construction within the 65dB contours would be undesirable unless specifically designed to reduce noise. Hospitals, convalescent homes, schools, churches, libraries, and other similar use buildings require specific consideration in the selection of locations and construction materials to maintain acceptable noise levels.

ACOUSTICAL SCALE**



** Source: Los Angeles County General Plan, Noise Element

* The unit of sound is the decibel (dB). The loudness of sound is typically measured using a sound meter, the A-Scale of which corresponds closely to the way the human ear perceives sound.² Thus the sound level for noise evaluations is frequently expressed in dBA.

Table 1

NOISE SOURCES*

Noise levels have steadily increased over the past thirty years. The growth of commercial aviation, the additional freeways and auto traffic and the popularity of recreational vehicles and outdoor home appliances have all contributed to increased noise levels of 10 to 30dB. The sources of noise can be classified in two categories:

- (1) Constant Level Noise Events
- (2) Intermittent Single Noise Events

CONSTANT LEVEL NOISE EVENTS

Constant level noise events are those noises which increase the outdoor noise level above the residential noise level for a considerable period of time and increase background noise levels within an area. Noise level ranges for cities and suburbs are as follows:

	Day	Night
Cities	64-80dB	55-75dB
Suburbs	44-59dB	38-50dB

The increase in noise levels are due to the constant noise of air conditioners, industrial equipment, construction site activity, and street traffic or other sources which emit constant noise.

INTERMITTENT SINGLE EVENT NOISE

Intermittent single event noises are those noises that raise the outdoor noise level above the residential noise level for short periods of time. Such noise may be caused by a four-engine Turbofan Jet Aircraft (100dB (A)) landing near a residential area, a garbage truck (84dB (A)), an automobile (74dB (A)) on a residential street, children at play (44dB (A)) or a dog barking (60dB (A)).

Reaction to noise is subjective; there is a wide variation in the sensitivity of different individuals to noise. Also, a noise which may be considered unacceptable in a residential area may be quite acceptable in an industrial park. Thus, the context in which

* Noise sources and the effects of noise on health are taken from CPO's report-Environmental Noise Policy Study.

the noise is heard and not just the noise itself is important in the determination of noise as "unwanted" sound.

THE HEALTH EFFECT OF NOISE ON PEOPLE*

Noise has several characteristics in common with other environmental pollutants. First, the effects of noise, whether biological, psychological, or sociological vary widely. At one end of the spectrum is the noise of explosions capable of destroying sensory receptors of the ear, and at the other, annoyance and impairment of task performance. Secondly, due to this wide range it is difficult to accurately identify the link between different levels of noise and their effects. The physiological effects of noise are understood best.

PHYSIOLOGICAL/BIOLOGICAL EFFECTS

Ear Damage

Using anatomical methods applied to groups of experimental animals and humans with a terminal illness, scientists have measured the extent of damage to the eardrum and the receptor organ of the inner ear (Organ of Corti). Excessive exposure to noise can result in the destruction of hair cells on the Organ of Corti and thus a loss of hearing. Other effects range from mild structural distortions to partial collapse or complete degeneration. In all cases the receptor cells are highly specialized sensory tissue, and once destroyed, can never be regenerated.

Hearing Loss

Hearing loss can be of a temporary or permanent nature. It is measured by determining the intensity level of the faintest tone an individual can hear (threshold level) prior to his exposure to a noise, and then comparing this level with that measured after his exposure. The difference is called a threshold shift.

If a threshold shift diminishes after the termination of the noise, it is said to be temporary. Generally, A-weighted sound levels must exceed 60 to 80dB (A) before a person will experience a temporary threshold shift even when exposures last as long as 8 to 16 hours.

* This section in its entirety has been extracted (excluding footnotes) from the CPO report Environmental Noise Policy Study which relied heavily on Environmental Protection Agency data.

The greater the noise exposure and intensity, the more rapid the threshold shifts. Severe exposures can produce compound threshold shifts, whereby a part of the hearing loss is permanent. Repeated exposures on a near daily basis over a period of many years may result in the cumulation of permanent damage as the ear becomes less and less able to recover from the temporary threshold shift present at the end of each day. Frequent exposures of sufficient duration to noises with A-weighted sound levels greater than 70-80dB (A) may be a cause of the common loss of hearing with increased age.

Sleep Interference

Sleep is necessary to insure health and the normal functioning of the body. Sleep occurs in a series of stages or phases. Depending on one's stage of development (child, adolescent, adult, etc.) the proportion of time spent in any one phase varies; but in all cases the elimination or interference with certain phases of sleep on a regular basis may prove hazardous to health. Noise can serve to interfere with sleep by either awakening a person or causing shifts from one sleep phase to another. Brief sounds of sufficient intensity (48dB (A) or greater) and fluctuating noise levels have been shown to alter the sleep pattern to lighter sleep and hence poorer sleep. Research indicates that when people are exposed to a great deal of noise, they will complain of sleep loss and suffer a reduction in their feeling of wellbeing. Regular interruptions of sleep by noise may prove a health hazard both physically and mentally.

Non Auditory Physiological Responses

Loud and unexpected noises can cause a startling reaction in an individual, resulting in a temporary increase in blood pressure, and a decrease in digestive activity. Colitis, high blood pressure, migraine headaches and nervous disorders can be caused by noise. Furthermore, it has been found that noise will perpetuate a disease of a patient after it has developed, thus prolonging the convalescence of a sick individual. Noise exposure may cause fatigue, irritability, or insomnia in some individuals, but quantitative evidence is unclear.

PHYSIOLOGICAL AND SOCIOLOGICAL EFFECTS

The unacceptability of noise or the degree of annoyance has been found to correlate positively with:

- An increase in the noise level over 50dB (A).

- The interruption of recreational activity.
- The unpredictability of the noise.

When individuals are forced to interrupt their activities, due to aircraft or construction sound for example, that sound is unwanted and thus noise, even though it may not be directly harmful physiologically, is annoying. However, symptoms such as headache, insomnia, and nervousness have been associated with noise annoyance. Therefore, there are some indirect physical effects.

Findings of community surveys reveal that a majority of citizens when subjected to a noise sufficient to produce a normalized Community Noise Equivalent Level (CNEL) of 81dB, would be annoyed and expected to produce a vigorous community reaction (legal action, for instance.) They also show that a small but significant percentage of the population is still very much annoyed at the CNEL 55dB value, even where no concerted community reaction would be expected.

OTHER EFFECTS

Speech Interference

The interference of noise with wanted sounds is called masking. A common example is the masking of speech by noise. If speech is entirely blotted out by a noise, it is said to be below the threshold of detectability. If it is audible, but indistinct, then speech is said to be above the threshold of detectability. Using these threshold levels, scientists have determined the maximum noise levels under which a normal conversation may be heard:

- Personal conversation At 5 ft. - 60dB or less
- Group conversation At 5-12 ft. - 50-60dB or less
- Public meetings - Parks At 12-30 ft. - 45-55 dB or less

Task Interference

Obviously, when a task requires the use of speech or other sounds, the masking of such sounds will substantially interfere with task performance. But in addition, tasks which do not require the use of sounds are hampered by noise. Studies of noise effects on the performance of tasks not dependent on auditory signals have reached the following conclusions:

- Complex and sensitive tasks may be adversely affected by noise at levels of 55dB (A) or greater.

- Steady noises without special meaning do not seem to interfere with task performance unless the noise level exceeds 90dB (A).
- Irregular bursts of noise are more disruptive than steady noises at noise levels near 75dB (A).
- Noise is more likely to reduce the accuracy of work than the total quantity of work.

See Table 1 below for a summary of the effects of different levels of noise.

ESTIMATES OF MAGNITUDES OF NOISE EFFECTS (In db(A))

	Moderate	Appreciable
Hearing damage	70	90
Speech interference	45	60
Sleep Interference	40	70
Physiological stress	*	90
Startle	*	110
Annoyance	40	60
Task interference	55	75

Table 2

Home Land Identification in Oceanside

CHAPTER 3

Noise Level Identification in Oceanside

The noise evaluation scale used by CPO for the regional Noise Element and in turn used in the preparation of the Oceanside Noise Element is the Day-Night Average Sound Level scale, L_{dn} , which has been deemed most appropriate in response to the requirements of the California State Code. The selection of the L_{dn} scale was based on the following facts:

1. It is essentially similar to the presently used CNEL scale for description of airport noise, though slightly simpler in its computation. It can be shown that the estimated L_{dn} and CNEL contours for airports will agree within L_{10} .
2. L_{dn} is the scale recommended by Wyle Research for the description of the cumulative noise emitted by railroad operations.
3. The methodology developed for assessment of highway traffic noise in terms of L_{dn} has been designed to be compatible with the L_{10} method (the A-weighted noise level exceeded 10 percent of the time during peak traffic flow periods) presently under use by CALTRANS. This methodology allows computation of both L_{dn} and L_{10} values, given the same input parameters, and using the same noise prediction curves.
4. The L_{dn} rating scale is the method that has been recommended by the Environmental Protection Agency for use in the description of cumulative noise from all environmental noise sources.

The CPO formula is presented in Appendix C. This appendix explains the methodology used in establishing noise contour lines. The results of the mathematical plotting of noise have been checked by metering machine to verify its accuracy.

NOISE LEVEL IDENTIFICATION

State Law mandating the Noise Element requires the identification of noise contours for fixed sources; i.e. airports, highways, and railroads. These measurements are required because noise levels are the highest and most troublesome near sources that continually emit noise due to their constant activity - primarily transportation facilities. In the future these sources could have increased noise levels as a result of increased traffic associated with higher population levels, thus the need to project noise levels and contours to 1995. Contour mapping for 1973 and 1995 shows, however, that noise levels are usually less, due to State laws requiring a gradual reduction in allowable noise from individual motor vehicles.

In the City of Oceanside, noise contours have been plotted for the following sources (see map 1, page 14).

1. Oceanside Airport
2. Interstate 5 from Camp Pendleton to the Buena Vista Lagoon
3. State Highway 78 from Interstate 5 to Vista City limits
4. State Highway 76 from Interstate 5 to East City limits
- 4a. State Highway 76 (freeway)
5. Santa Fe Railroad from Camp Pendleton to the Buena Vista Lagoon
6. Santa Fe Railroad spur from the main line to Vista City limits
7. Hill Street from Camp Pendleton to south City limits
8. Vandegrift Boulevard from N. River Road to Camp Pendleton
9. Vista Way from Hill Street to Interstate 5
10. N. Santa Fe from State Highway 76 to Vista City limits
11. Murray Road from N. River Road to State Highway 76
12. Canyon Drive from N. River Road to Oceanside Boulevard
13. College Boulevard from Lake Boulevard to Mission Avenue
14. N. River Road from Canyon Drive to Vandegrift Boulevard
15. Mission Avenue from Interstate 5 to Hill Street
16. Oceanside Boulevard from Hill Street to Melrose
17. El Camino Real from State Highway 78 to N. River Road.

OCEANSIDE PARKS AND RECREATION DEPARTMENT
AQUATICS DIVISION

130 Brooks Street Swimming Pools 1404 Marshall Street
433-8811 Ray Duncan, Aquatics Supervisor 722-2227

APPLICATION FOR OCEANSIDE SWIM CLUB
(To be filled out in duplicate)

Name of Applicant _____ Age _____

Address _____ Phone _____

City _____ Zip _____

Date of Birth _____ Weight _____ Height _____ Eyes _____ Hair _____

Parent or Guardian's Name _____

In case of emergency contact
(other than parent) _____ Phone _____

List any physical disabilities pertinent to swimming _____

What, if any, behavior problems might the coach expect? _____

WE HAVE READ AND UNDERSTAND THE RULES AND REGULATIONS AND THE FEE SCHEDULE
OF THE OCEANSIDE SWIM CLUB AND LEND OUR SUPPORT TO THIS TEAM.

Parent or Guardian's Signature

Swimmer's Signature

* * * * *

LIABILITY RELEASE

I, we, release the City of Oceanside, the Parks and Recreation Department,
Division of Aquatics, and all its agents, the Oceanside Swim Club and the
Oceanside Swim Club Boosters, of any liability or responsibility due to any
injuries received or incurred while participating in this program.

Parent or Guardian's Signature

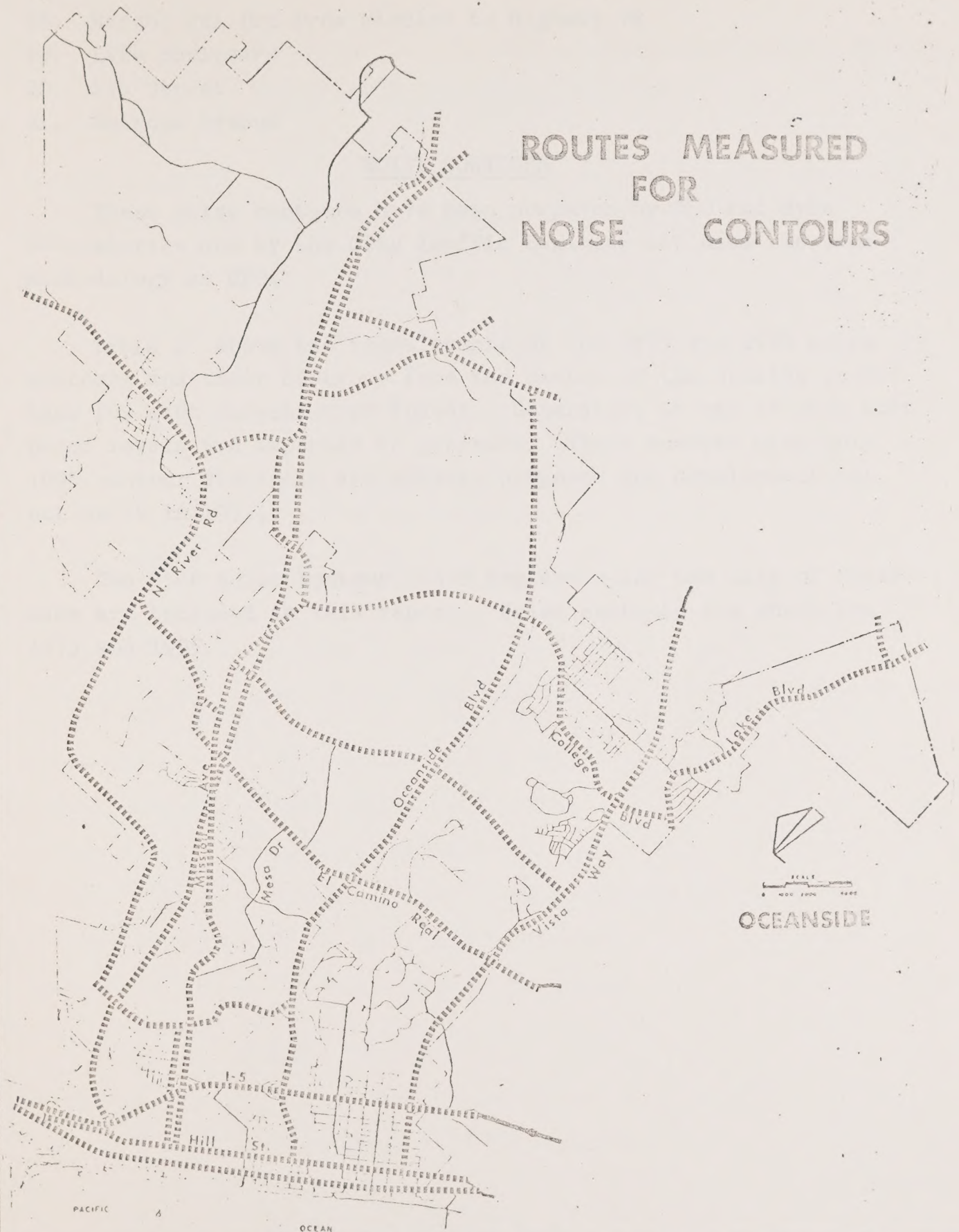
Swimmer's Signature

NOTE: For new swimmers application is to be accompanied with first month's dues.

For office use only

Coach's Initial _____ Swimming Requirements _____ Date _____
(Lifeguard sign)

ROUTES MEASURED FOR NOISE CONTOURS



Map 1

18. Rancho del Oro from Mission to Highway 78
19. Lake Boulevard
20. 4th Street
21. Melrose Avenue

NOISE CONTOURS

These noise contours have been prepared by CPO and Wyle Laboratories and by the City Traffic Engineer who used the same methodology as CPO.

Table 2 shows the relationship of the 1973 and 1995 noise contours and their distance from the center of the outside (curb) lane for each direction of travel. Generally, it can be seen that noise levels are expected to decrease. Those sources with only 1995 contour distances are streets proposed for development but not built in 1973.

The 65dB noise contour lines key areas for the City of Ocean-side are included in this report. Noise contours are shown for 1973 and 1995.

DISTANCE TO 65dB NOISE CONTOURS
(1973-1995)

<u>ROADWAY SEGMENT</u>		<u>1973*</u>	<u>1995**</u>
Interstate 5 ***:	North City limits to 4th Street	390'	300'
	4th Street to Brooks Street	415'	315'
	Brooks to Cassidy Streets	450'	300'
	Cassidy Street to South City limits	340'	290'
Highway 78***:	Interstate 5 to Jefferson Street	190'	180'
	Jefferson Street to East City limits	250'	225'
Highway 76***: (Mission Avenue)	Interstate 5 to Canyon Drive	300'	125'
	Canyon Drive to Airport	210'	60'
	Airport to El Camino Real	200'	50'
	El Camino Real to North River Road	150'	50'
	North River Road to North Santa Fe	130'	50'
	North Santa Fe to East City limits	150'	50'
Freeway 76***:	Interstate 5 to Mission Avenue		200'
	Mission Avenue to City limits		200' (EB)
			150' (WB)
Hill Street:	Harbor to South City limits	75'	50'
Vandegrift Boulevard:	North River Road to Camp Pendleton	160'	125'
Vista Way:	Hill Street to Interstate 5	50'	50'
North Santa Fe:	76 to Vista City limits	50'	90'
Murray Road:	North River Road to 76	50'	75'
Canyon Drive:	Mission Avenue to Oceanside Boulevard	50'	50'
College Boulevard:	78 to Oceanside Boulevard	50'	50'
North River Road:	76 to Vandegrift Boulevard	160'	125'
Mission Avenue:	Interstate 5 to Horne Street	85'	
	Horne Street to Hill Street	50'	
Oceanside Boulevard:	Hill Street to Interstate 5	85' (WB)	50'
		65' (EB)	
	Interstate 5 to El Camino Real	75'	50'
El Camino Real:	78 to 76	See Fig 50-85' 3	
	76 to North River Road		50'

Table 3

<u>ROADWAY SEGMENT</u>		<u>1973*</u>	<u>1995**</u>
College Boulevard: Oceanside Boulevard to Mission Avenue			50'
Oceanside Boulevard:	El Camino Real to College Boulevard	95'	
	El Camino Real to Melrose Avenue		75'
North River Road:	Golf Course to Canyon Drive		90'
Rancho del Oro:	Mission Avenue to Vista Way		50'
Lake Boulevard:	College Boulevard to Melrose Avenue		75'
Fourth Street:	Canyon Drive to Hill Street		50'
Melrose Avenue:	76 to Lake Boulevard		95'

* Noise levels based upon 1973 Traffic volumes and roadway configurations. The distance to the 65dB noise contour is measured from the center of the outside (curb) lane in each direction of travel, and is the same for each direction unless noted.

** Noise levels shown above are based upon projected 1995 traffic volumes, and roadway configuration shown on the City of Oceanside Major Street Plan 1967. Date: 11/14/73

*** Noise volumes of freeways and highways made by CPO in 1973.

1973 65dBA NOISE CONTOURS
EL CAMINO REAL - HIGHWAY 78 TO HIGHWAY 76

El Camino Real was selected for a detailed noise contour analysis because it is designated as a primer arterial and traverses numerous grades exceeding 6 percent. The CPO Noise Study indicates that short, severe grades exceeding 6 percent have a significant impact in noise propagation. The chart below shows the distance from the centerline of the easternmost (E) lane or westernmost (W) lane to the 65dB noise contour.

<u>Street Intersections</u>	Distance to 65dB (in Feet)	
	<u>E</u>	<u>W</u>
Vista Way to Via Las Rosas	125	75
Via Las Rosas to Fire Mountain/Skyline	75	75
Fire Mountain/Skyline to Railroad crossing	75	125
Railroad crossing to past Oceanside Blvd.	75-125	75
Past Oceanside Blvd. to Mesa Drive East	75	125
Mesa Drive East to Mesa Drive West	80	75
Mesa Drive West to before Vista Oceana	125	75
Before Vista Oceana to Vista Oceana	95-75	75-95
Vista Oceana to Vista Rey	75	85
Vista Rey to Mission	75	80-85

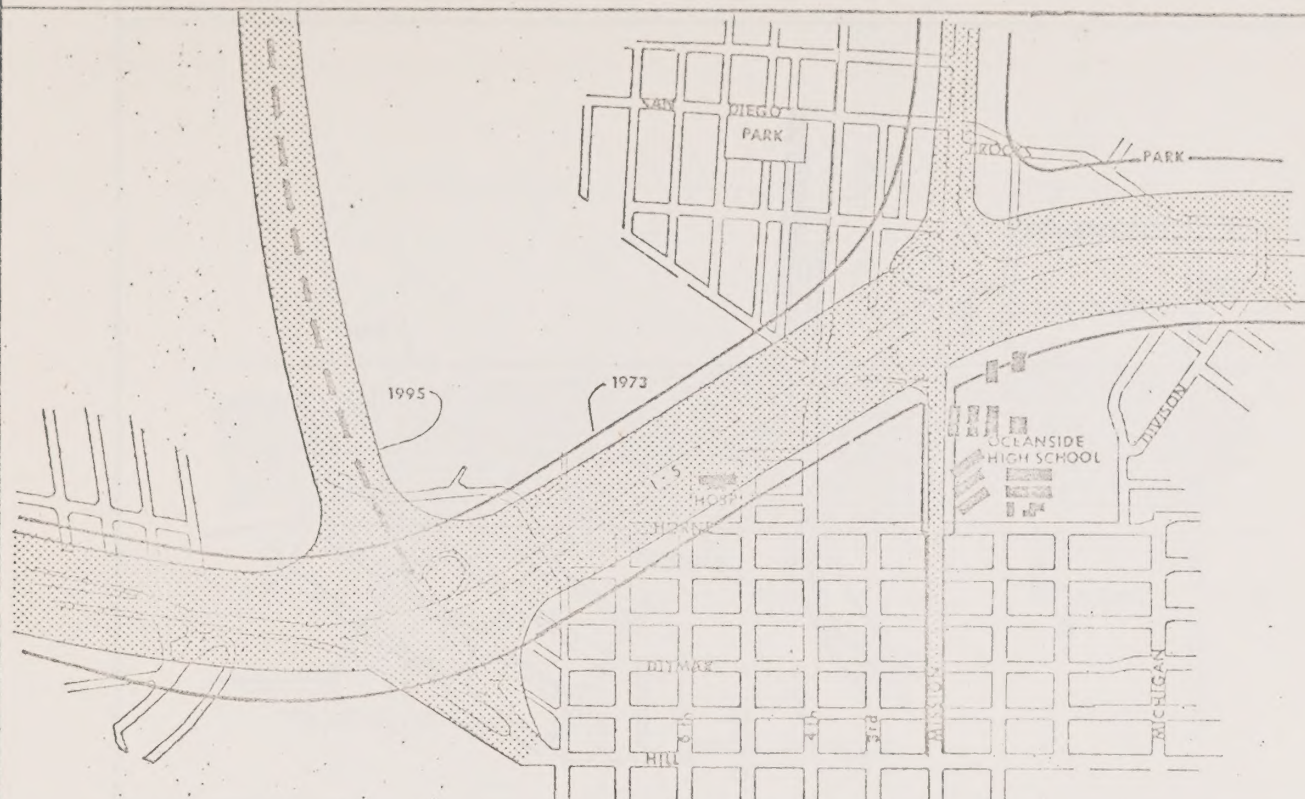
Table 4

NOISE CONTOUR MAPS

As already stated, noise contours have been mapped for 1973 and 1995. To understand the areas impacted by noise, 11 selected maps have been prepared and are included in this report. Each map shows the 65dB contour-line for 1973 and 1995. The area between the 65dB contour lines experiences noises greater than 65dB. For areas where the impact of noise is of specific concern (hospitals, airports), contour lines have been developed to levels lower than the 65dB.

As a result of the 1973 and 1995 noise contour mapping, the following conclusion can be made: Noise impact areas are expected to decrease as State controls on motor vehicle noise come into effect, regardless of the expected increases in vehicular traffic. Detailed noise contours, maps at 800 and 1000 scale showing 1973 and 1995 projected noise contours for freeways, major streets, railroads and airport areas in the City of Oceanside are on file in the Planning Department.

INTERSTATE-5 & MISSION AVE



INTERSTATE 5, HIGHWAY 76 MISSION AVENUE, FREEWAY 76

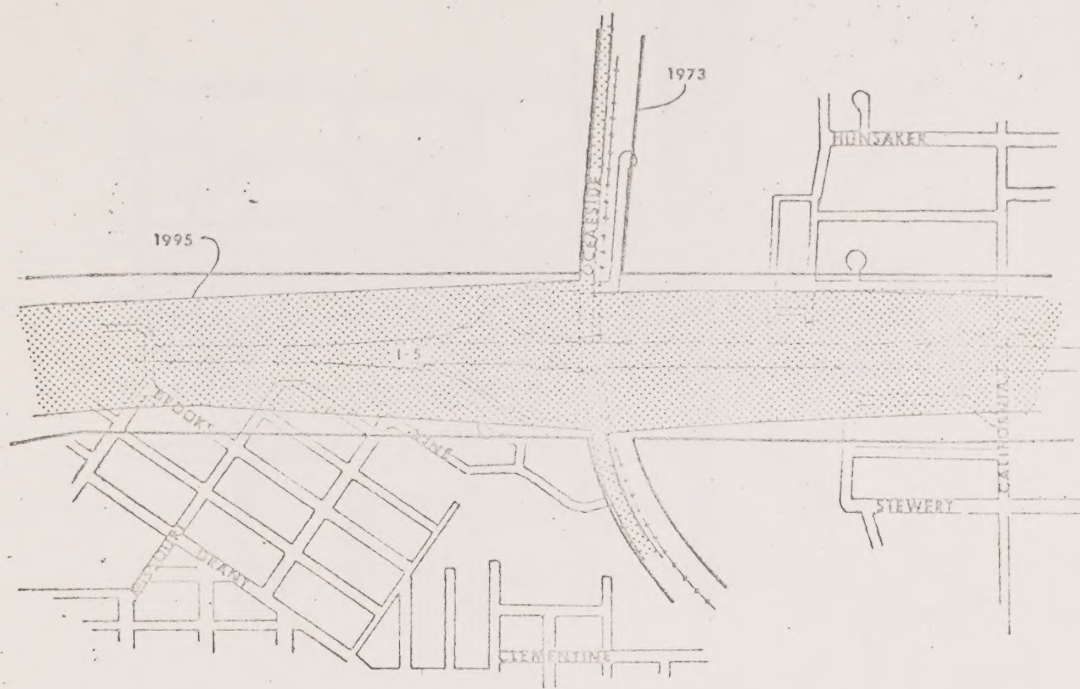
Noise contours (65dBA) are shown by the heavy black line for 1973. The 1995 noise contours (65dBA) are the shaded areas. As can be seen from the map, the 1995 noise contours are expected to be lower.

Substantial change is expected along Mission Avenue with the construction of Freeway 76 and resultant traffic volume changes.

Oceanside Hospital is impacted by noise according to the mathematical formulas used. Inspection of the site shows questionable validity to the existing noise contours. This condition may be due to the deep cut the freeway follows and the location of the hospital over the ridge line.

All of the existing classroom buildings of Oceanside High School are outside the 1973 and 1995 contours. Only sections of the music and gym buildings are within the contours.

OCEANSIDE BLVD & I-5



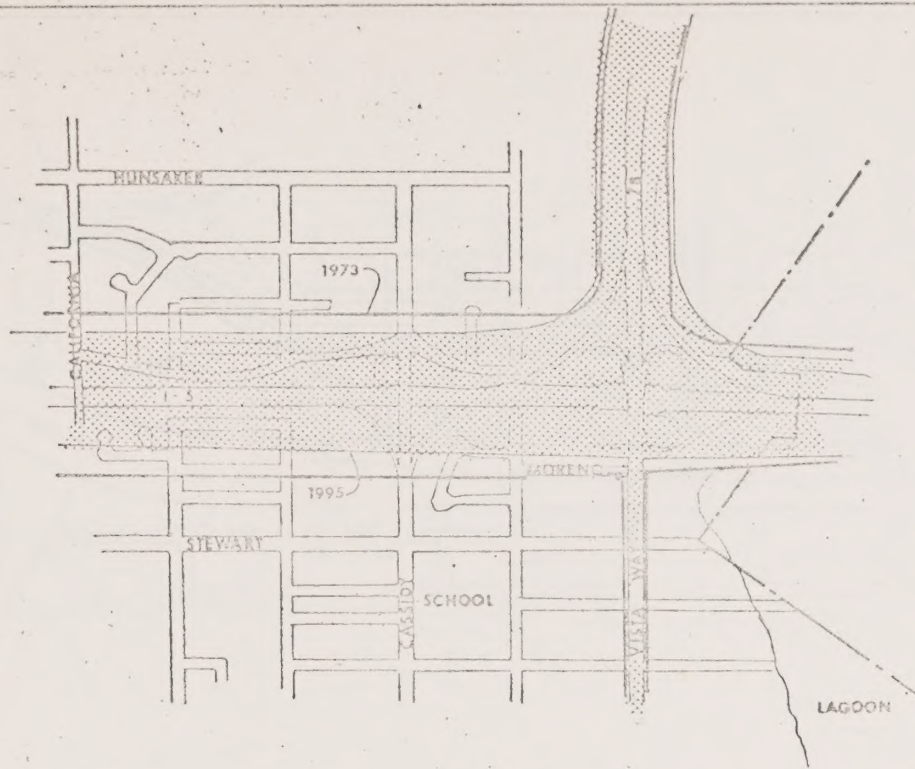
OCEANSIDE BLVD., INTERSTATE 5 ESCONDIDO SPUR AT AT&SF RAILROAD

1973 65dBA contours are shown as the heavy black lines. 1995 65dBA noise levels are within the shaded area. This map shows the expected decrease in the 65dBA noise levels due to State implementation of noise control.

Noise contours for 1995 along the railroad right-of-way were unavailable for this report.

Several homes along this section of the freeway near California Street are presently within the 65dBA contour. By 1995 only those directly adjacent to the freeway will be impacted.

VISTA WAY & I-5

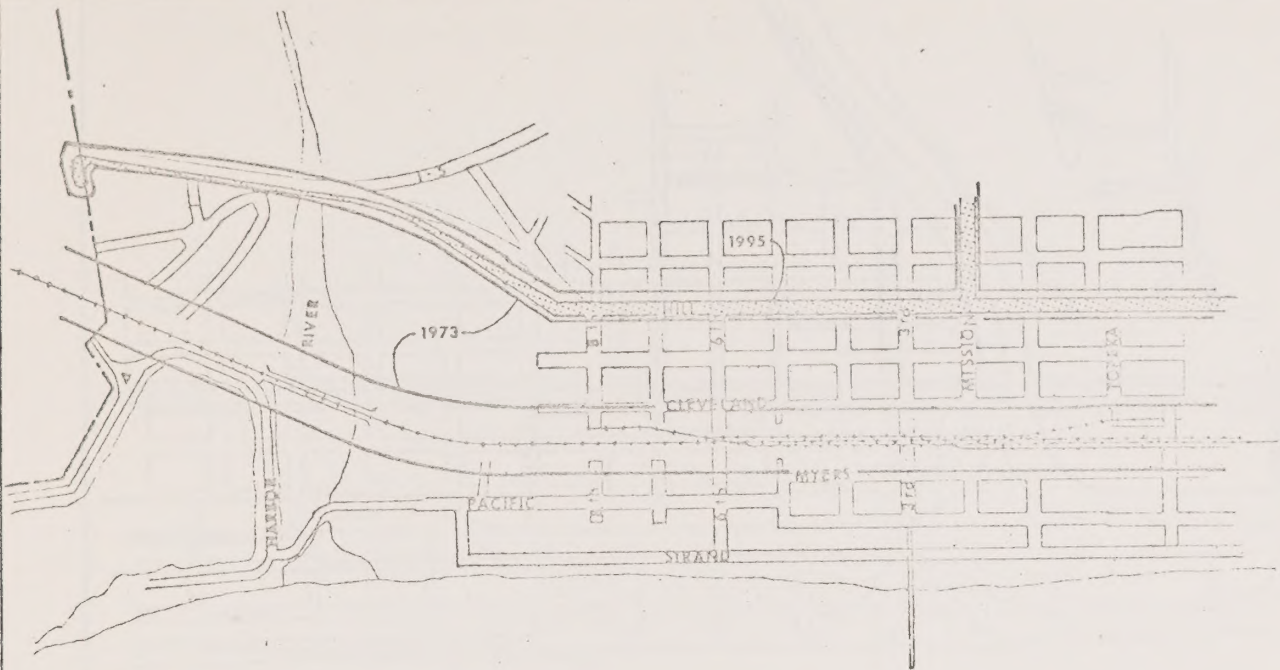


INTERSTATE 5, VISTA WAY HIGHWAY 76

Noise contours for 1995 are expected to decrease from the 1973 contour areas (1973 area - black line; 1995 - shaded areas).

Numerous homes in this area are presently impacted and several will continue to be even after 1995. Existing vacant land should be encouraged to develop in nonresidential uses more compatible with the freeway environment.

HILL ST & ATSF RAILROAD

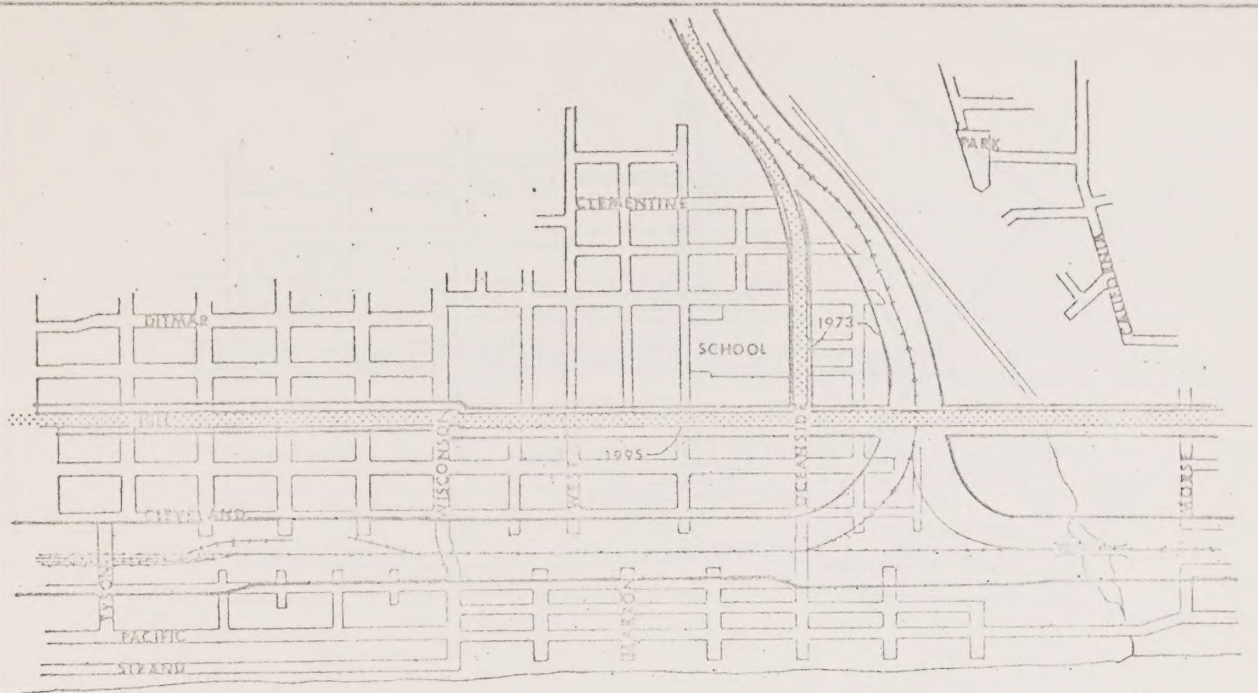


HILL STREET & AT & SF RAILROAD

1973 and 1995 65dBA noise contours are shown for the downtown area of Oceanside from the Harbor to Topeka St. Noise levels for Hill Street are expected to decline as State noise enforcement comes into effect. Noise contours for 1995 are not available for the Main Line of the railroad.

New noise contours will be applicable after the possible lowering of the railroad tracks and/or the establishment of a high-speed rail line through Oceanside. Noise projections after the lowering of the railroad will be a part of the Railroad Lowering Feasibility Study presently being prepared by consultants.

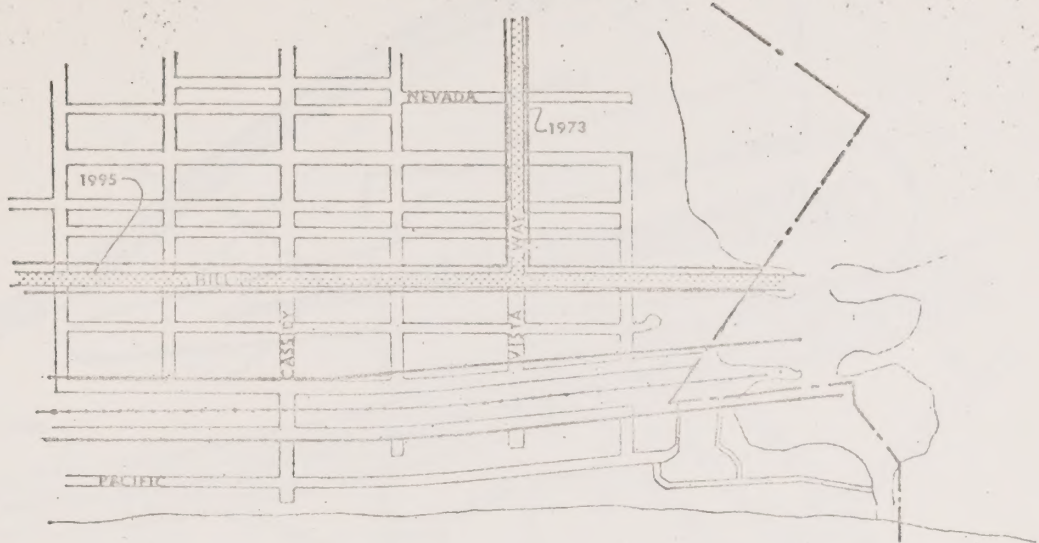
HILL ST ATSF RR & OCEANSIDE BLVD



HILL STREET, AT & SF RAILROAD AND OCEANSIDE BLVD.

Noise levels are expected to decrease along both Hill Street and Oceanside Boulevard. 1995 railroad noise contours are unavailable.

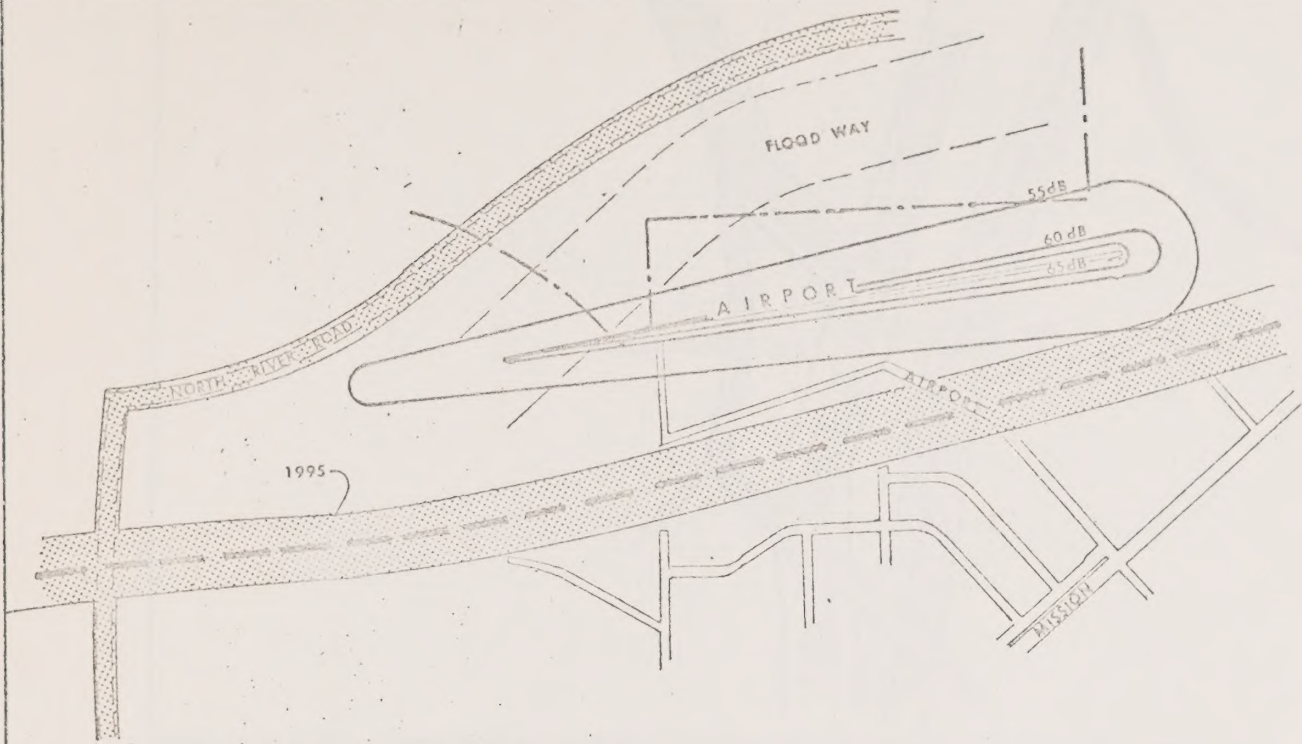
HILL ST, RR & VISTA WAY



HILL STREET, AT & SF RAILROAD, VISTA WAY

1973 noise levels along the railroad right-of-way are generally to the nearest property lines of adjacent property because 1995 levels cannot be predicted at this time since sufficient data is unavailable.

AIRPORT



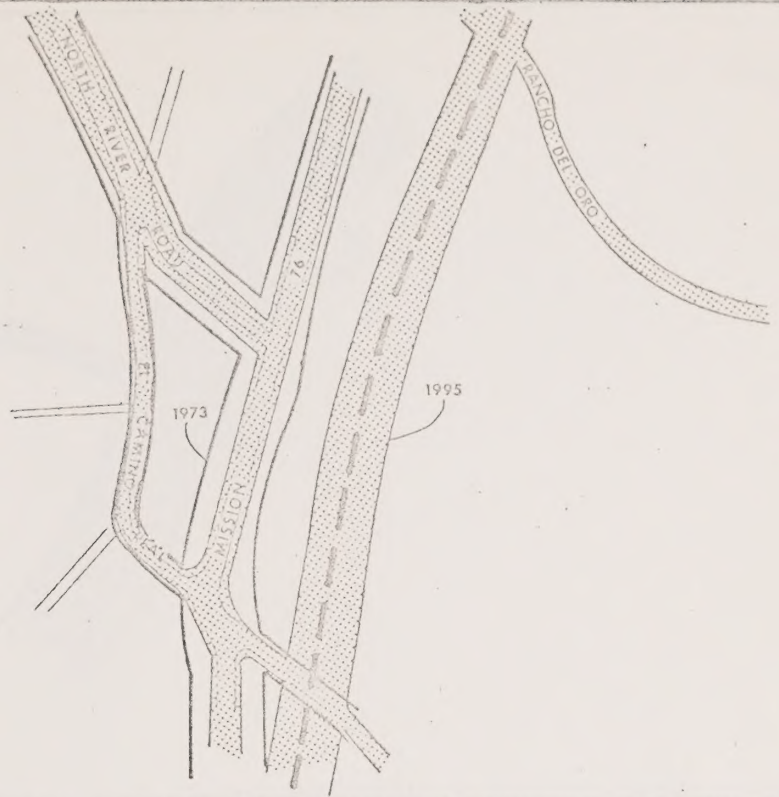
OCEANSIDE AIRPORT, FREEWAY 76, NORTH RIVER ROAD

Contour lines are shown for Oceanside Airport as black lines. 65, 60 and 55dBA contours have been established by CPO for 1973. Data for 1995 predictions are not available.

1995 65dBA contour lines are shown for Freeway 76 (heavy broken line) and the extension of North River Road. Prediction of these noise contour lines have been made by CPO (Freeway 76) and by the Oceanside Traffic Engineer.

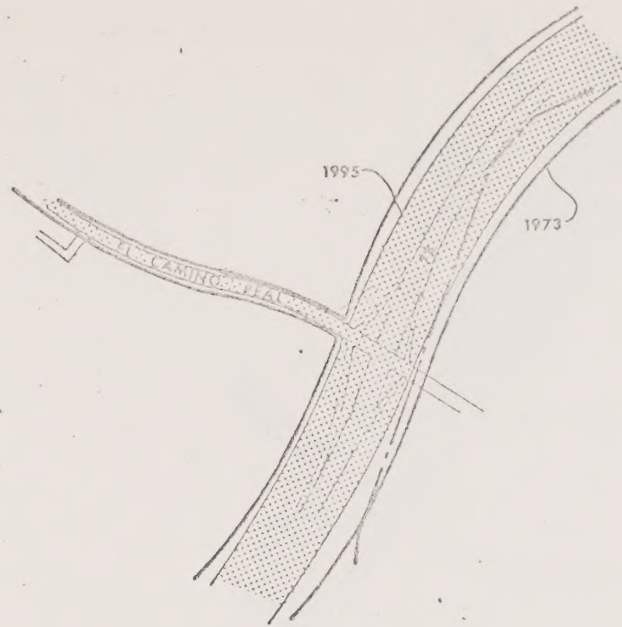
Land uses in this area are primarily industrial, therefore, the impact of the airport and future freeway is minimal.

EL CAMINO & 76 (MISSION)



EL CAMINO REAL, MISSION AVENUE, FREEWAY 76, NORTH RIVER ROAD, AND RANCHO DEL ORO

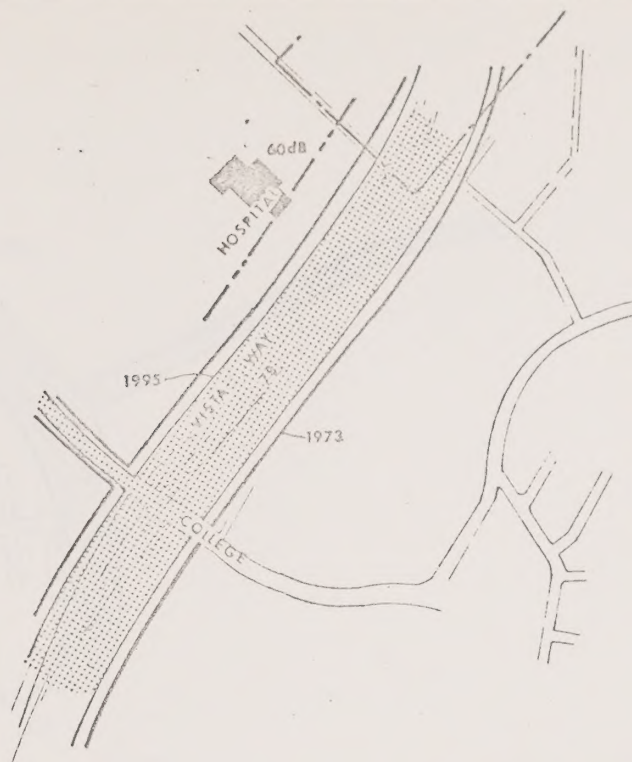
1973 noise contours for North River Road and Mission Avenue are substantially higher than the 1995 65dBA projections. This may be due in part to the construction of Freeway 76 (broken heavy line). Land uses along Freeway 76 will have to be planned to be compatible with noise generated by the traffic. In this area, for instance, the narrow strip between Mission Avenue and the Freeway has been planned for commercial uses.



EL CAMINO REAL AND FREEWAY 78

Noise contours are expected to decrease along both routes. The 1995 decrease on El Camino Real reflects changes in the noise controls imposed upon motor vehicles even though its route northerly is a severe grade which produces additional vehicular noise.

TRI-CITY HOSPITAL

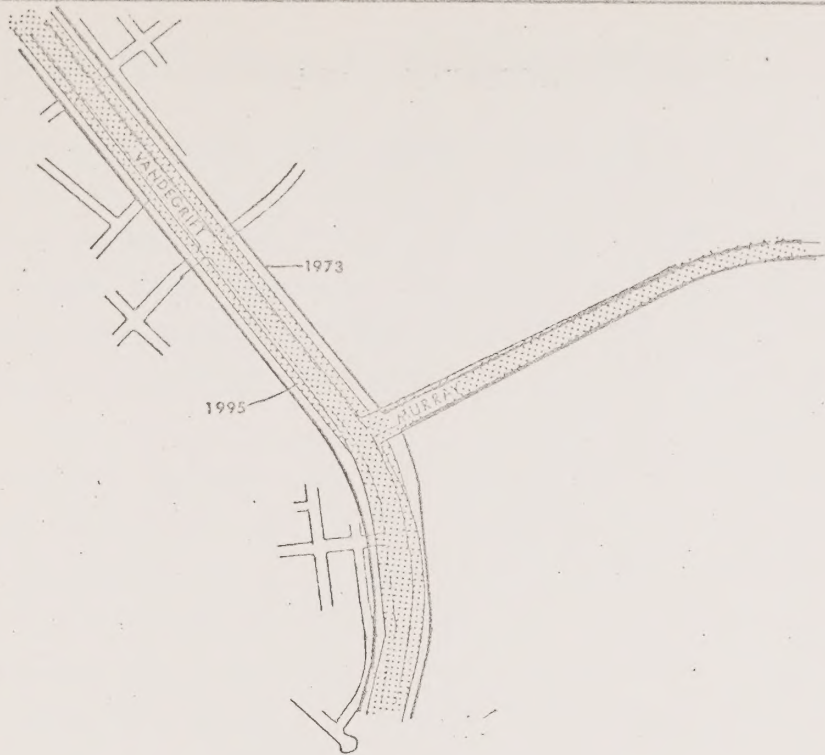


VISTA WAY, FREEWAY 78, COLLEGE BLVD. AND THE TRI-CITY HOSPITAL

The identification of noise levels around health care facilities is of primary concern. The broken line is the 60dBA contour line which bisects the hospital site; however, the existing buildings are not within this line. Future construction should be kept north of this line and, when feasible, opening windows should not be located on the south side of buildings.

Map 11

VANDEGRIFT & MURRAY



VANDEGRIFT BLVD. AND MURRAY ROAD

1995 65dBA noise contours for Vandegrift Blvd. are expected to substantially decrease because of increased noise controls on motor vehicles. There is little impact on existing residential development because adjacent homes do not front on Vandegrift Blvd. thereby allowing the rear yard and fencing to serve as sound buffers.

Establishment of Desirable Maximum Noise Levels

When the National Highway Traffic Safety Administration (NHTSA) was established in 1966, it was given the task of establishing maximum noise levels for new motor vehicles.

The first step in this process was to determine the noise levels which would be acceptable to the general public. This was done by conducting a series of surveys in which people were asked to rate the noise levels of various vehicles as "acceptable" or "unacceptable".

These surveys showed that the noise levels of most new motor vehicles were acceptable to the general public. However, there were a few vehicles which were rated as "unacceptable". These vehicles were usually older models or vehicles which had been modified to increase their speed or power. The NHTSA decided to set maximum noise levels for new motor vehicles which would be acceptable to the general public.

Background

The NHTSA has established maximum noise levels for new motor vehicles. These levels are based on the noise levels which would be acceptable to the general public. The NHTSA has also established maximum noise levels for new motor vehicles which are modified to increase their speed or power.

Standards

The NHTSA has established maximum noise levels for new motor vehicles. These levels are based on the noise levels which would be acceptable to the general public. The NHTSA has also established maximum noise levels for new motor vehicles which are modified to increase their speed or power.

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CHAPTER 4

Establishment of Desirable Maximum Noise Levels

Cities such as National City, San Diego, Santa Barbara, Torrance, and Hemet have prepared and adopted noise control ordinances using scientific methods to identify "noise" and noise sources and establishing enforcement provisions.

Noise types are broken into seven categories: aircraft, motor vehicles, construction, noise amplification equipment, noise making apparatus, disturbers of the peace, human voice and noises caused by animals. Each of these types of noise have different characteristics and require specialized attention. The following are suggested controls for each type of noise source:

Aircraft Noise:

Due to the difficulty in enforcement and the unlikelihood of Oceanside's airport serving jet traffic, noise controls for aircraft are not necessary.

Motor Vehicles

1. Off Highway Motor Vehicles:

Use restrictions for off-road vehicles should be such that vehicles will not emit noise in excess of:

82dBA - for a vehicle 6,000 lb. or more in weight

77dBA - for a motorcycle

74dBA - for any other on-highway vehicle used off-road

70dBA - for any off-road vehicle less than 6,000 lb. in weight

2. Powered Model Vehicles:

Powered model vehicles should be limited to operation between 7 a.m. and 9 p.m. and their noise levels should not exceed 5dBA over the ambient level at the property line.

3. Vehicle Repairs:

It should be unlawful to repair or rebuild any motor vehicle

between 9 p.m. and 7 a.m. in such a manner that the ambient noise levels exceeds 50dBA at the property line.

4. Refuse Vehicles:

No refuse vehicle should be permitted to operate when trash compacting creates a sound in excess of 86dBA at 50' from the center line of a street. No refuse collection should be allowed before 7 a.m.

5. Watercraft:

No person shall operate any engine powered pleasure vessel or motorboat within two miles of the City limits in excess of 85dBA to be measured not less than 50' from the path of travel of the vessel before January 1, 1975, and 76dBA thereafter.

Construction Noise

1. It should be unlawful for any person within any residential zone or 500' therefrom to operate any pile driver, power shovel, pneumatic, power hoist or other construction equipment between 8 p.m. and 7 a.m. generating an ambient noise level of 50 dBA at any property line unless an emergency exists.
2. It should be unlawful for any person to operate any construction equipment at a level in excess of 85dBA at 100' from the source.
3. It should be unlawful for any person to engage in construction activities between 6 p.m. and 7 a.m. when such activities exceed the ambient noise level by 5dBA. A special permit may be granted by the Director of Public Works if extenuating circumstances exist.

Amplified Sound

(Although the use of amplifying equipment is protected by constitutional rights, it may be reasonably regulated to protect the public welfare.)

1. Curfews for use of amplifiers should be established at reasonable times such as 9 p.m. to 9 a.m. Noise levels should not be audible at a distance of 300 feet from the amplifying equipment and should not be audible within any hospital, rest home, or convalescent hospital and shall not exceed an ambient noise level of 55dBA at any property line for "R" zoned properties. Special permits to exceed the above curfew hours may be issued by the Chief of Police for temporary events sponsored or conducted by nonprofit organizations.

Noise Making Apparatus

1. Noise making apparatus should include radios, television sets, phonographs and similar devices. Ordinances have been or may be created to prohibit the use of such devices if such use disturbs the quiet and comfort of a neighboring resident. Curfews may be established whereby no operation between 10 p.m. and 8 a.m. is permitted if sound is audible at 50' from the source. Provisions may be adopted prohibiting any noise source extending the ambient noise level at the property line of any "R" zoned property by more than five (5) decibels which shall be prima facie evidence of a violation.
2. Machinery, circulation devices, fans and other such equipment should not be permitted to operate when a noise level is created at the property line exceeding 5dBA above the ambient level.
3. Sound trucks used for commercial purposes should be required to receive permits from the noise control officer of the City.
4. Emergency signal devices should be operated or used only in cases of an authentic emergency and should be used only for a period of time necessary to respond to such emergency. No person should operate or permit to be operated an emergency signal device installed in an authorized emergency vehicle

which, when operated, creates a sound level in excess of 90dBA when measured 50' from the center of the forward face of such vehicle.

Disturbers of the Peace

It should be unlawful for any person to make or continue any loud, unnecessary noise that causes annoyance to any reasonable person of normal sensitiveness. Standards should include but not be limited to noise level intensity, noises that are usual or unusual/natural or unnatural, the level and intensity of background noise, the proximity of noise to residential sleeping facilities, the nature and zoning of areas within which noise emanates, the density of inhabitation, time of day or night, duration of noise, whether noise is recurrent, intermittent or constant, and whether noise is produced by commercial or noncommercial activity.

Human Voice and Animal Noise

1. Hawkers and peddlers should be restricted to selling by outcry to licensed sporting events and entertainment, prohibiting such outcry in residential areas.
2. Animals and fowl should be restricted such that no person can keep any animal or fowl otherwise permitted to be kept if it shall cause discomfort to a person of normal sensitivity.

Oral Formations

CHAPTER 5

Goal Formation

The formation of goals and objectives and their adoption are the key elements necessary in developing a general plan and implementation methods. The following list has been prepared by the League of California Cities as specific recommendations to aid in solving community noise problems:

1. Each City Council should adopt a policy statement for reducing noise in the community as part of a broad approach to environmental quality control.
2. Cities should adopt a noise ordinance to prohibit unwanted and unnecessary sounds of all types within the community.
3. Cities should review their existing ordinances which relate to noise control for compatibility with the above.
4. Cities should undertake a study of excessive noise sources in the community (part of the Noise Element).
5. Cities should develop a noise enforcement and regulation program and consider assigning an existing staff member or creating an administrative position within the City to be concerned with noise problems. Such a staff person could be in the Planning Department, Building Department, Police Department, Administrative Office or Environmental Control Division.
6. Cities should review their own functions and activities to make sure that noise, such as construction, refuse collection, and street sweeping has been reduced to the lowest possible level.
7. Cities should enforce the motor vehicle code as it applies to excessive noise.

8. Cities should conduct an educational campaign consisting of civic group presentations, news releases, studies and reports to inform citizens of the dangers of noise and the actions each person can take to help reduce noise pollution.
9. Cities should incorporate noise standards in zoning ordinances which will prohibit incompatible land uses with respect to noise.
10. Cities should adopt building codes to insure adequate sound insulation between dwelling units, and where appropriate, to insure adequate sound insulation of interior areas of both apartments and single family residences from especially loud external noise sources.
11. Cities should consider the development of "quite zones" in special areas of the City, perhaps in already existing recreation areas. All forms of noise would be controlled so that people could visit and enjoy solitude as part of their recreation and leasure experience.
12. Cities should include maximum noise level requirements in specifications for equipment purchases, construction contracts, and refuse collection. Where specific noise levels cannot be set, specifications should require that vendors state maximum noise levels expected to be produced by their equipment and/or operations.
13. Cities should review and reevaluate their traffic flow systems to synchronize signalization to avoid traffic stops which produce excessive noise, and to adjust traffic flow to achieve noise levels acceptable to surrounding areas.
14. Cities should seek to develop regional planning agreements for zoning and soundproofing to reduce noise incompatibilities across city boundaries.
15. Cities should review county and regional comprehensive plans to identify noise environmental impact and develop alternatives for the control of major noise sources. In any single

function of county or regional plans for transportation, airport development, highway development, etc., the same provisions should apply.

16. Cities should contact state and federal officials to convey their concern over noise problems and encourage residents to do the same. Many aspects of noise pollution require state or federal action and governmental officials at all levels should be aware of public need for a solution to noise problems.

CITY GOAL, OBJECTIVES & POLICIES

From the list compiled by the League of California Cities, goals and policies can be established to abate noise problems. The following goal and policies are recommended for adoption as part of the Noise Element. This singular goal will express the City's intent to control noise and improve Oceanside's environment. The objectives are the rationale behind the creation of the goal and serve to further clarify the goal. Policies are the specific actions recommended to be taken and should be used as guides in the decision making process. Finally, the recommendations are those actions that must be taken in order to implement the policies.

GOAL: To minimize the effects of excessive noise in the City of Oceanside.

OBJECTIVE: * To protect the residents and visitors to Oceanside from noise pollution.
* To improve the quality of Oceanside's environment.

POLICIES: * Noise levels shall not be so loud as to cause danger to public health in all zones except manufacturing zones where noise levels may be greater.

- * Noise shall be controlled at the source where possible.
- * Noise shall be intercepted by barriers or dissipated by space where the source cannot be controlled.
- * Noise shall be reduced from structures by the use of soundproofing where other controls fail or are impractical.
- * Noise levels shall be considered in the approval of any projects or activities, public or private, which requires a permit or other approval from the City.
- * Noise levels shall be considered in any changes to the Land Use and Circulation Elements of the General Plan.
- * Noise levels of City vehicles, construction equipment, and garbage trucks shall be reduced to acceptable levels.

Implementation

CHAPTER

6

Implementation

The proposed Noise Element thus far has identified the existence of noise, its health effects, areas impacted by noise and suggested goals and policies the City may wish to follow. In order to implement these goals, several recommendations have been prepared which will effectively abate or reduce undesirable noises.

RECOMMENDATIONS

The following implementation program is recommended:

1. A new Noise Control Ordinance (possibly the same or similar in format as suggested by the League of California Cities Model Noise Ordinance - Appendix A) should be adopted. This Ordinance should establish stricter noise controls and should designate enforcement powers to a specific department (Building, Planning or Police Department).

Although the City Code presently contains provisions prohibiting unnecessary and loud noises of various origins (Appendix B), these provisions are not explicit and do not comply with State of California requirements.

2. In order to measure noise levels, a noise meter must be acquired. This meter is necessary to identify and measure noise sources and noise levels.
3. Strict enforcement of the provisions of the Noise Control Ordinance and effective penalties for violations should be established.
4. Truck traffic on residential streets should be prohibited for all vehicles over two tons in weight. This

recommendation is based upon complaints from residents subjected to severe noise and disruptions caused by heavy trucks using residential streets not designed for that purpose. (Oceanside currently has no streets prohibited to trucks in excess of certain weight.)

5. Land uses in the City of Oceanside should be planned in order to insure that residential areas will not be impacted by noise. Approval of any project in the City where the health of future residents or occupants may be adversely affected by noise associated with the site should be dependent on mitigation measures which will be taken to reduce or abate the noise effects or should be denied approval and recommended for an alternative site (example - a new rest home or hospital should not be constructed in areas subjected to noise levels 65dBA or higher).
6. The Zoning Ordinance should contain provisions for the mitigation of noise to surrounding property or residents and should impose performance standards upon those activities associated with each zone. These standards would help to ensure compatibility of land uses and lessen the danger of harmful effects upon people involuntarily subjected to noise.
7. The City should establish a truck route to serve commercial and manufacturing areas of the City in order to eliminate undesirable truck traffic from residential neighborhoods.
8. A quiet zone should be established and posted around Oceanside Hospital, Tri-City Hospital, all medical care facilities, and all schools within the City limits.
9. The operations of the Santa Fe Railroad should be examined and efforts be made to change the hours of operation for switching, and more desirably to relocate the switching yard to a more compatible location preferably outside of the City limits. The City should contact the Public Utilities Commission through the City Council as to the possibilities of controlling the railroad-related noise.

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